food, seed, and chicken feed were met, 58 per cent of the crop remained to be sold off for cash (Janlekha 1955:53). Almost every inhabitant was engaged in commercial rice farming. A few teachers, craftsmen, and traders, alone did not farm. Plantings of early and late varieties in different plots spread the toil. Cooperative work or some local hired help assured adequate labor forces at the needed moment. Nevertheless, two heavy work seasons dominated the rice cycle. The first of these, June through August, involved soil preparation and transplanting of the seedlings in long straight rows. In the second season, November into February, the rice was harvested, brought home for threshing and winnowing, then sold or stored. The straw was stacked as buffalo feed. People were anxious during the preparatory and planting season, for rains were fickle and the planning and timing had to be exact. Work was hard and almost grim. Harvest, though perhaps more of a physical strain because people cut the stalks by day, then threshed and winnowed far into the night, was gay and so less taxing emotionally, for the crop had safely passed through the threats of flood, drought, and pest, and "cash was in sight." Haste was necessary because each plot of rice had to be harvested within three or four days of its maturity, and because at that season the canals were drying up rapidly, raising the possibility not only that human backs and not boats would move the crop, but that the buyers themselves could not get their boats in to take the main portion to the urban markets. Then a farmer might have to wait until the canals filled again in June to sell his rice and get his money. Since during the busy seasons everyone from age 16 on up was taken up with farming, the cooking, child care, and other chores were carried on by the aged and the very young. These work days taxed to the limit the strength of all men, women, and even young people. Ten to 18 hours might be spent stooping to transplant or weed, or, at harvest, to cut the rice stalk close to the ground. There was a great deal of heavy lifting of seedling bundles or sheaves. The few professional masseurs in the area said they were kept on the run because of back complaints especially during the periods of heavy labor.

243 [433] [476] [464] 243 461 • [442] [505] [887] [857] [759]

In the periods between these two seasons, tools were repaired, houses rebuilt, and ceremonies organized. Extra cash was earned in various ways. People kept very busy, though they did allow themselves more sleep.

221 461

The importance of women's role in agriculture is indicated by their virtual equation with men. In every step of rice-production women worked alongside men, plowing with the buffalo, planting, weeding, harvesting, repairing the dikes, hauling, etc. Only uprooting the seedlings was exclusively men's work (even this was done by women elsewhere in Thailand [Kingshill 1960:73]).

243 462

Besides the work in rice-fields, women dug and cleaned

462

462 Besides the work in rice-fields, women dug and cleaned [503] canals and ditches, mounded land, and fished in many ways, the [226] most laborious of which was plunging a heavy basket into the mud to catch burrowing fish. In the household chores, in which men shared to some extent, they carried water, cut and fetched wood, tended livestock, cultivated kitchen gardens, [501] pounded rice in mortars, and cleaned houses. Boats were rowed by paddling or sculled by standing and pushing a single large [354] oar. Cooking was time consuming. The low stoves were on the [352] ground or floor. Since there were no tables or chairs, one squatted two to four hours a day to cut or pound ingredients, [516] stir the curry, or wash the dishes.

868 The training of boys and girls for farm and household work was thorough and started early. By 18 years of age, 561 boys and girls with few exceptions were experienced in every step of farming. Janlekha's chart (1955:82) indicates the • 461 progression (parenthetical additions are the present author's):

Age	Method	Kinds of farm work
5 - 7	not forced, but allowed or induced to work if they want to	light hauling, removal of weeds which have been turned over by harrowing
8 - 12	mild pressure	light hauling, removal of weeds which have been turned over by harrowing; some household work and help in the kitchen - girls only - (sometimes boys)
13 - 14	moderate pressure	hauling, weeding, buffalo-tending, transplanting, chicken-feeding, fishing, household work (boys and girls)
15 - 16	high pressure	all kinds of farm work, harrowing, harvesting, and uprooting - boys only - are started at this age.

872 Children worked in the fields before and after school
461 which, compulsory for all children aged eight to fourteen, was held from 9 a.m. to 3 p.m. five and one-half days a week. Vacations coincided with peak work seasons so children could help in the fields or at home.

846 [789] Seven days after the end of the fire period, Dŭan sent a message to the mɔ̌ to look in his book as to what direction from the house she should bury the phlai, the bamboo knife, and the pot with the now dried placenta and cord. She already knew some of the procedure: burying should take place on a Monday or a Friday; south was right during the first three months of the lunar calendar, November, December, January; and the full moon of the twelfth month (October) was especially good, for the moon waned thereafter. Chăi had been born in October, so north was right for him, but for a girl it would have been east. Song or Lak or anyone could bury the pot, but most mothers did it themselves. If it were buried in the wrong direction, the baby would die, and if not under a tree, he would leave them and their home, and roam. The instructions came. With the things in her hand, she walked toward a big jackfruit tree. Beside it was a sakɛ̌. Either was good, so she chose the sakɛ̌ which, being nearer the house, might strengthen by that much the roots that would keep her boy at home. After burying the pot and all, she returned directly to the house, remembering to pick, as she came, a fruit, a vegetable, a leaf, and then a piece of wood, all useful things. In the house she added them to the usual household stores. By doing so, and by using them up shortly, she ensured that her new son would be a good worker, who on returning home would always bring something to add to the requirements and wealth of the household. Once buried, the placenta, "like ashes," was ignored and the spot forgotten.

846 262 [461] [753] [757] 862 Within a month after childbirth, Dŭan was back at farm work, even to the back-straining pounding of rice in the big mortar. For three months she avoided fruits, particularly guava and jackfruit. Then, since the baby was thin, she gave up vegetables, especially gourds, corn, and the green plants that grew in the canal. One day, because she carelessly ate some salted field crabs, the baby got thrush on its tongue. They cured him by smearing the milky juice of a peel of klûai nam banana on the cloth sheet covering his cushion, then wiping this on his tongue (cf. Anuman Rajadhon 1961:153). So the year passed, and then another. Not long after his third birthday, Dŭan realized she was pregnant again, so took steps to wean him. She painted her nipples with "black medicine" (yɛ̂ dam), a bitter and hot tasting ointment made from the boreped rhizome (Mcf; 474). Then she sent the child over to her mother's older sister's house for four nights. To make quite sure, she followed an old ritual way, too. She boiled an egg hard and peeled it. Holding the egg behind her back, she turned her face away from her son, and handed it to him behind her so that she could not see his face. "Henceforth, you shall not nurse any more," she said. Without looking at him, she walked

Despite the availability of fish and of vegetables in the canal, the highest cash outlays for family food occurred in this transplanting season. Several factors probably contributed to this: increased food energy needs because of long hours of work, venders again accessible because of high water, cash from sale of last year's crop still in hand, the convenience of cooked foods and snacks, and perhaps the need to replenish household supplies after the long drought, or after their depletion by a ceremony.

The two months of September and October during which the rice grew afforded some respite. People slept a little longer and breakfast was not prepared so early. The skilled cook might take over and could give more attention to food preparation. All who could, took the opportunity to visit and take trips. A few might go on a pilgrimage. Therefore, in this season, all family members were less often together at the evening meal. Fishing was a continuous occupation, with some preserving and home craft. Jobs such as selling food in the market were undertaken for ready cash; houses and equipment were built or repaired. Finally the threshing floor was prepared.

High water caused time-consuming inconvenience only in earth-floored cottages where it was necessary to keep the rice stores and chickens dry, move the cook-stove, and either build plank walks or cook standing ankle deep in water.

By November, the earliest varieties of rice matured. Those who owned several rice fields could put at least one into an early type. Many persons, by then short of rice, were glad to be thus tided over. One grandmother divided her first harvest among her several long-since-independent married children; 2 tangs[1] of milled rice per family, 40 for herself.

The heroic labor of harvest occupied December, January, and February. Farmers raced against the all-too-fast lowering of the water in the canals, without which sheaves could not be moved and buyers could not come for the paddy. People worked all daylight hours in the fields, threshed far into the night. At this time also many varieties of fish matured and men fished night after night. Just when the convenience of purchased food was greatest, cash was exhausted. With rice money in sight, venders might be generous with credit, but they could navigate only the larger canals, so were not available to many.

There was an important psychological difference between

---

1. One tang equals 20 liters. Milled rice weighs about 16 kg. per tang.

There was an important psychological difference between the two work seasons. At planting time, people were anxious; at harvest they were happy. People saw cash just ahead, for the crop was now safe. Each host of a cooperative work party gave at least one big convivial feast, the best he could provide and even the hired laborers got a round of liquor. People joked more than usual at work. Two boat loads of workers were observed racing down a canal at 6 a.m., shouting and cheering, although they had probably worked long hours for days or weeks before. Everyone knew that a joyous season was at hand.

When the crop was in, the people rested, fished, and began to prepare for big ceremonies demanding organized work. Supplies of fish were needed for preserving or for feasts. Labor and engines were now available, and with water low, fishponds could be conveniently drained, and the fish on the muddy bottom caught. A pond might be drained two or three times a year, but timing was determined by the availability of equipment and workers and by the needs of the annual ceremonial cycle. One pot of fish was given to each helper at a cooperative pond-draining.

Most farmers sold their rice in February. Capital was invested in farm equipment, buffalo, housing and ceremonies. Debts were cleared if possible. Cash expenditures for food, which had declined progressively since the beginning of the rice year, reached the yearly minimum, mostly because people had ample time to fish. People also saved up their money if they were sponsoring a ceremony, ate lightly at home if they were going to one. Since school closed from March 15 to May 1, because of the heat, money was not given to children for snacks.

The land dried up and cracked, rainwater for drinking gave out, and some canals were reduced to mud. Cherished plants were kept alive by watering, but no new planting could be done. Buffalo, which at other seasons were confined and fed, now roamed the fields, nibbling stubble. Everyone was busy and happy. Ordinations, weddings, cremations, merit-making feasts and several big holidays came one after another. Of the four New Year's Days observed in Bang Chan, the Buddhist New Year, which because of the lunar calendar fell about mid-April, was the most important, being celebrated over two days with extensive offerings of food to the priests and with other activities. The official New Year's Day, January 1, and the traditional New Year's Day about November 1, had rather slight observances. Chinese New Year's, in February, was celebrated by the Chinese residents who presented a school teacher and their hamlet headman each with a boiled chicken and a Chinese sweet. Lent officially closed the ceremonial season, but the advent of plowing-time slowed the pace considerably.

When the rains finally came, the rice year started again.

47

FOOD IN CONNECTION WITH FESTIVITIES AND CEREMONIES

262 796 A discussion of food habits in Bang Chan would be incomplete without some description of ceremonies ((1)ngaan)[1] which dominate the village scene during the dry, post-harvest season. These events are of interest in connection with food habits because of 1) the prominent place that food occupies in them, 2) the cultural significance and relatively large cost, both of which must be taken into account in any plans for dietary improvement and 3) the possible influence of differences in food habits at the ceremonial season and of problems of sanitation incident to large-scale food preparation on the nutrition and health of village residents.

796 The season for ceremonies and festivities opened with the harvest rites to the Rice Goddess and closed with the beginning of Buddhist Lent in mid-July. The big occasions were cremations, ordinations into the Buddhist priesthood, weddings, and rites for cutting of the topknot[2] or homage-to-the-
527 teacher.[3] Smaller family celebrations might mark such events as the raising and dedicating of a house, the return of a son from the army, or even public events such as the completion
264 of a road or a bridge. Whatever the focal activity, a gala meal was served first to priests and then to guests.

[796] Offering food to priests brought merit, which ensured happiness in later rebirths (see p. 9). Because the greater the number of priests served, the greater the merit, people were spurred to put on as large an affair as they could
[559] afford. Moreover, a person was judged throughout the community by the abundance and quality of the food served daily and
527 at festivities. Thus, there was reason to make a (1)ngaan
796 as opulent as possible, but celebrations of every degree occurred in Bang Chan, from lavish feasts to simple ceremonies.

---

[193] [60] 1. Significantly the same Thai word is used for work and for ceremony.

[80] [85] [135] 2. Topknots, formerly worn by all Thai children, used to be cut ritually at the time of puberty. In Bang Chan, the growing of a topknot had become primarily an attempt to improve a child's health. Few school age children wore topknots. They were usually cut earlier than puberty.

[575] 3. A person who had received specialized knowledge from a teacher gave thanks annually in a ceremony, to which those who had profited by this knowledge were obliged to come and/or contribute. Thus, all the patients of a traditional medical practitioner helped him to honor his teacher.

4:Phillips E-4,5 (1956-1957) 1966
AO7 Central Thai AO7
Bang Chan

various kinds of ants living in Thailand and the United States. (Such are the topics that interest villagers.) The villagers wanted to know the English names for small red ants, normal black ones, and the large, rusty colored variety that are indigenous to the tropics. I named the first two with no difficulty. For the third, I said simply, "a giant ant." The assistant, turning to one of the informants, first gave the literal Thai equivalent of "giant," and then, as if this were the funniest thing he had heard that week, began to repeat, "giant, gi-ant, gi-ant." In a few seconds, they were all bursting with laughter.

Different, yet part of the same psychological constellation, is the whole complex of behaviors associated with the term, *sanug*. *Sanug* is usually translated into English simply as "fun." However, this translation conveys little of the motivational significance of the term. Essentially, *sanug* is a quality inherent in all situations which are not only fun but also emotionally worthwhile. In fact, these two states are often thought of as reciprocals of one another. An activity that is novel, diverting, or that can be done comfortably, is *sanug dii* (good fun); one that is tedious, overdemanding, that lacks the opportunity for frivolity, is not *sanug* and should be avoided. Harvesting rice in coöperative work groups, attending a ceremonial, participating in an election (see Phillips 1958: 45–46), or even taking something as outlandish as a Sentence Completion Test are all *sanug*. (The unifying elements of these diverse activities are either their novelty or the fact that they involve the presence of relatively large numbers of people but require no genuine interchange with them.) On the other hand, going into the army or working for a demanding superior are not *sanug*.

The importance of *sanug* is that it provides the villagers with a standard of value, a measure of how much they wish to commit themselves to a particular activity. The role of this standard should not be underestimated. Villagers who have taken a job in the city, often involving a time-bound daily routine or continuous, sustained attention to a task (work in a small factory, for example) frequently return to the village explaining that they quit "because it wasn't *sanug*. How can you work on a job if there is never any time for fun?" Foreign employers, with their greater concern for the job than with the person who does it and with their annoying tendency to be *cuu cii* (compulsive, fussy, exacting) are a particular target for this indictment, although this is usually based on hearsay rather than personal experience. On the other hand, villagers will often take on free of charge a major job (for example, helping a neighbor build a house) precisely because it is *sanug*. Although there are other considerations operating here—creating or repaying a personal obligation, doing a *bunkhun* ("a goodness") for a neighbor—the "sanug-ful" aspects of the task are always

4:Phillips E-4,5 (1956-1957) 1966
AO7 Central Thai AO7
Bang Chan

181 salient: the free food, drink, and chitchat at the end of a hard day's work;
• 461 the fun of working together with several other individuals. Notice that in
476 this kind of situation there is no overseer demanding the person's effort. His labor is freely given and may be freely withdrawn.

181 In describing *sanug* as a measure of how much villagers wish to commit
*156 themselves to a particular activity, I mean to communicate a point and not
571 merely to turn a phrase. The word "commit," which appears often in this book, is used to convey the idea that coöperative, mutually expectable interaction as we know it in the West does not "simply take place" in Bang Chan. Rather, there is always the intervening factor of whether individuals want it to take place. Siamese are, first and foremost, free and independent souls. Much of the time they fulfill each other's expectations, but this is only because they want to, not because others expect it of them or because the situation demands it. It is the individual that is primary, not the social relationship. The strength of this principle is demonstrated by the fact that one is almost never surprised when one's expectations about another are not fulfilled. The assumption is: "If he did not do it, he must have had his own good reason."

181 The potentialities for interpersonal frustration that are inherent in such
154 a system are minimized largely by the hesitation on the part of individuals
*156 to build up strong expectations about people or events. In general, the Thai
571 are a people who do not live at, and rarely reach, a high emotional pitch. Witness, for example, the specifications of "sanug-ful activities," those which afford the greatest pleasure: they are novel, diverting, comfortable, and frivolous, but there is no Faustian intensity about these joys. They are all rather muted emotional experiences. The point here is simply that in this kind of psychological environment, people rarely permit themselves to become *so* committed to an activity or to another person that the frustration of that commitment will be overly disturbing to them. They proceed from a premise which says in effect: "Well, it is really not that important that he did not do what I expected of him. I will simply have to make do."

181 There are a few aspects of the villagers' concern with *sanug* that
154 warrant underscoring. First, from an analytic point of view, *sanug* seems to
*156 reflect an attempt on the part of the villagers to lead a psychologically integrated life, wherein the time and energy one gives to an activity is rewarded immediately and directly with pleasure. This low-keyed pleasure should be an inextricable part of the total situation in which one finds oneself (or more accurately, into which one places oneself), not something to be deferred until a later, "more appropriate" time when it becomes an isolated segment of experience. Essentially, *sanug* should be—it not always is—a concurrent aspect of almost everything that one does. At the same time, however, these conditions are also the source of an inevitable paradox. Since "sanug-ful" activities are, by definition, novel and diverting, and

4:Phillips E-4,5 (1956-1957) 1966
AO7 Central Thai AO7
Bang Chan

recognition of the incongruity being portrayed; to have to explicate the way the familiar has been violated is to miss the whole point. Yet the very problem with which the anthropological investigator is characteristically faced is his unfamiliarity with the culturally implicit. His major intellectual task in fact is to make explicit that which is implicitly held by his informants. The only way to deal with this paradox is either to consider humor a special case of anthropological investigation, leave the content alone, and focus principally on forms and functions, or do a humorless exegesis and be prepared for disappointments. As indicated earlier, this writer greatly prefers the former alternative.

Why the frequency and value of the humor should be so different is difficult to say. That the villagers devote considerably more time to this mode of play and place considerably higher value on it than do most Occidentals is clear, especially from the pejorative comments of Westerners who are so disturbed by it. One possible reason may be the simple lack (compared to Occidentals) of time-consuming, functional tasks in the village; that is, given the villagers' definitions of things that have to be done during the cycle of daily activity, there is just more time available to them to be "frittered away" in amusing conversation. However, this negative explanation is at best only a partial solution since many people who have "little to do" manage to make busy work for themselves (in a diagnostic, not deprecating, sense); also, granted the fact that Bang Chaners have time to talk of many things, it does not explain why such a large portion of this time should be given over to humor. Another possible reason was indicated earlier: comedy provides an outlet for certain feelings that otherwise are denied direct expression or are a source of anxiety in the culture. The higher frequency of humor is a function of the degree of prohibition or anxiety, which in the case of some feelings—aggression, for example—is very high indeed. Since, as has probably been detected, much of the villagers' humor does revolve around aggressive situations, there is clearly some cogency to this approach. There is a third possible reason for the villagers' greater concern with humor. Humor, with its emphasis on the exaggerated, the incongruous, and unpredictable is, from a psychological point of view, essentially a form of new experience. In fact, it, and the real life situations to which it refers, are "invention" in the purest meaning of the terms: the breaking through of tried and established patterns of expectation. But people in different cultures look for their new experience, or express their inventiveness, in different ways. There is no inherent necessity (a consideration often overlooked by scholars concerned with culture change) for inventiveness to be expressed primarily through technological, economic, or sociological forms. It might well be, as Keesing has suggested (1960), that in many cultures the favoured modes for expressing the

50

125 [793] [593] [792] [162]

39.4. IF A WAS SOME 20 AND UP: Of your sons over twenty, how many have been ordained as Buddhist priests, or not?

	7. DA	212
	A. None	81
	9. One	58
	X. Two	25
	Y. Three or more	16

e. Do you have any sons under twenty?

	9. Yes	128
	X. No	108
	— No Answer	37

[793] [782]

f. IF YES: In future, do you want your sons under twenty to be ordained as priests, or not?

	Y. Yes	126
	O. No	—
	— No Answer	2

g. IF YES: But aside from your admirable desire to have them ordained, in your true heart how sure is your expectation? Are you very sure or not very sure, or fairly sure that they will be ordained?

	1. Very sure	110
	2. Not sure	26
	3. Fairly sure	12
	4. Unascertainable	9
	NA	1

h. All over Thailand there are some Thai men who are over 50 but have never been ordained as priests. For what various reasons might this happen?

(See code at end)

[461]

30. Suppose there was some work you could do individually, or that could be done in a small group of two or three, or that could be done in a large group. Which way would you prefer to do the work--as an individual, or in a group of two or three, or in a large group?

	8. Individually	60
	9. Small group	55
	X. Large group	202
	Y. Undecided, depends	4
	O. Unascertainable	12

[572]

31. Around here in SC-KY there are some people who have many close friends and there are other people who have few close friends. And how about yourself? Do you have more close friends than most people around here, or about the same as most people around here, or fewer close friends than most people around here?

	5. More than most	62
	6. Fewer than most	34
	7. About the same	154
	8. Unascertainable	53

*243 476 as unscrupulous guest workers might tend to lengthen the distance in order that they might work less because the share of work was on an area basis. In cooperative harvesting, it was customary that the host provided a meal after the work was done. As with the case of cooperative transplanting, each guest worker was to harvest an area of one-fourth of a rai. No checking was necessary in this case. In the rather unsignificant cooperative weeding, the host worked side by side with guest workers in the same plot, and work was measured by the time spent on weeding -- in "day" or "half-day," one "day" being an equivalent of six-hours' work and correspondingly one "half-day" an equivalent of three-hours' work. Guest workers were induced to weed more intensively by an offer of prizes in the form of cigarettes for a certain number of bamboo binders they collected in the course of weeding (by pulling). The underlying idea was that since these bamboo binders which were left in the parcel during transplanting sank deep in the soil, thus the amount of bamboo binders collected by each guest worker more or less indicated his weeding effort.

Our records show that supervision of cooperative work started on July 22 and ended on January 24.

*243 476 • 461 21. Entertaining guest workers. It was already mentioned in the previous step that customarily the host provided food to guest workers in cooperative uprooting and cooperative harvesting. To feed some twenty to thirty people was quite a job, thus practically all family workers were occupied in food preparation and serving on these occasions. Our records show that entertaining guest workers started on July 22 and ended on January 24, and that while supervision of cooperative work

243
476 utilized only 26 man-hours of labor, entertaining the same
461 groups involved as many as 158½ man-hours.

Labor Requirement in Rice Production

243
461
128 During the 1953-54 rice year, an exploratory study of labor requirement in rice production was conducted, using only one farm. This farm was operated by Headman Chom Srisuay of KY5. It was one among the 104 sample farms covered by the preliminary survey in 1948-49. The choice of this farm was made on the basis of the high degree of cooperation given us by Chom and all his family.

[594] During the period covered by this special study of labor requirement, Chom had a family of nine, consisting of Husband Chom (47), Wife Sai (44), three sons -- Phuan (19), Phan (16) and Phloen (8), and four daughters -- Phung (15), Phad (13), Bunmarg (7) and Mian (4).

In the year of the study of labor requirement, Chom operated a farm of 49 rai consisting of four parcels: Parcel A, 7 rai; Parcel B, 20 rai; Parcel C, 7 rai; Parcel D, 15 rai. The locations of these parcels are shown in the sketch map on page

Part of Parcel A was used at the beginning of the sea-
243 son as seedbed. After the seedlings had been uprooted and
461 transplanted, this parcel was again plowed and harrowed and planted to three varieties of rice -- Mue Hag, Ched Ruang and Khao Sa-ing. Parcel B was also planted to three varieties -- Mue Hag, Ched Ruang and glutinous rice. Parcel C was planted to only one variety -- Mue Hag. Parcel D was planted to two

*243 varieties -- Khao Sa-ing and floating rice. The areas in each
• 461 parcel planted to different varieties are given below.

Parcel	Total area rai	Area planted to each variety Var. name	Area in rai
A	7	Mue Hag	3
		Khao Sa-ing	3
		Ched Ruang	1
B	20	Mue Hag	10
		Ched Ruang	7½
		Glutinous rice	2½
C	7	Mue Hag	7
D	15	Khao Sa-ing	9
		Floating rice	6

It may be seen that actually there were five varieties altogether. The areas devoted to these varieties were as follow: Mue Hag, 20 rai; Khao Sa-ing, 12 rai; Ched Ruang, 8½ rai; glutinous rice, 2½ rai; floating rice, 6 rai. Since 6 rai was planted to floating rice and it was mentioned in the first section of this chapter that this floating rice lent itself only to the broadcasting method, it may be noted here that of the total area in rice of 49 rai, 43 rai was devoted to transplanted rice and 6 rai was devoted to broadcast rice.

*243
594
461 Of the nine members of the family, Chom, Sai, Phuan and Phan were first-rate workers while Phung -- the fifteen year old daughter -- was diligent but still needed more training in the farm work. Chom kept four buffaloes. Thus the needed four regular workers who were supposed to be Chom, Sai, Phuan and Phan. When the work season was about to begin, however, Phan was engaged by the Cornell research team as a

[TEXT CONTINUED ON PAGE 242a]

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

row man. He could not very well be substituted by his younger sister who was also needed to perform the housework. A worker was thus hired for the period of two months -- from the middle of June to the middle of August -- primarily to help in plowing. Phan also partially helped in plowing and harrowing in part of the morning session before he started his work for the Cornell team at nine o'clock.

During the cooperative work season, Chom represented the family in cooperative uprooting and cooperative harvesting, and Phuan in cooperative transplanting, weeding and harvesting. Phan also represented the family in cooperative work scheduled for Saturdays and Sundays when he was free from Cornell duty.

Work records of all workers of this farm were kept by the author throughout the work season from June 4, 1953 to February 14, 1954. At the beginning, the author stayed overnight with the family. Family workers were requested to give accounts of their activities of the day. To facilitate more accurate accounts regarding the time of the work, a clock was given to the family. When family workers became acquainted with the type of information that was needed, Phan, our row man, was assigned to make a daily report on the kinds and time of work done by each worker. Phan's daily report was taken down by the author in the labor schedule specially prepared for the purpose.[3] Later, when Phan's reporting skill was well developed, he was asked to report on the daily labor records only four times a week, usually Monday, Tuesday, Thursday and Friday.

---

3. See Appendix E

243 Since the farm work usually followed the same pattern for a
461 certain period, it was observed that Phan remembered quite well
128 the time and the kind of work done by each family worker during
the past two or even three days. The time of work was recorded
[231] to the nearest half-hour. In Tables 35 and 35, labor spent by
[464] family workers, piece-workers hired by the family, and buf-
[592] faloes, on different steps in rice production was given in
man-hours and buffalo-hours. The dates when these various
[476] jobs started and ended were also given. It should be noted,
however, that labor recorded as spent on cooperative work was
actually not spent on the family farm but rather on farms of
other cooperative members. This was nevertheless exactly com-
pensated by cooperative work on this farm on several occasions
which were not entered in the calculation to avoid error
because of duplication.

243 The data from Tables 35 and 36 may be summarized as
461 follows:
221 1. Man labor provided by farm staff.
[592] Work started June 4, ended February 14, a total of 248
[464] work days.
[231] Total man-hours spent by farm staff -- 5,478½.

2. Man labor provided by piece-workers.

Work started July 19, ended August 30, a total of 10 work days.
Total man-hours spent by piece-workers -- 229.

3. Animal labor provided by buffaloes.

Work started June 4, ended February 13, a total of 112 work days.
Total buffalo-hours -- 2,119.

[TEXT CONTINUED ON PAGE 246]

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

TABLE 35

SUMMARY OF YEAR ROUND WORK BY CHOM FARM STAFFS
Bangchan, Thailand, 1953

Steps*	Duration Start	End	Days in work	Man-hrs.
A. Work by Farm Staff				
1. Plowing	June 4	Aug 23	49	918½
2. Harrowing	June 13	Aug 24	28	291
3. Remove weeds after harrow	June 13	Aug 15	25	219½
4. Irrigate and drain	June 4	July 8	21	186½
5. Rolling	June 13	Aug 22	7	42
6. Sow, broadcast	June 18	July 15	13	48½
7. Prepare and repair	July 5	Dec 9	10	106½
8. Prepare bamboo binders	July 17	Aug 27	10	45½
9a. Coop uprooting	July 15	Sept 11	25	127½
9b. Family uprooting	July 17	Sept 8	20	115½
10a. Coop transplanting	July 18	Sept 19	36	267½
10b. Family transplanting	Aug 20	Sept 10	13	125
11. Hauling	July 17	Sept 14	55	733
12. Field inspection	Aug 25	Nov 30	42	87
13a. Care of the plants	July 24	Sept 28	14	114½
13b. Coop weeding	Sept 20	Sept 29	8	86
14. Prepare thresh floor	Nov 29	Jan 27	7	13½
15a. Coop harvesting	Dec 4	Jan 25	44	747½
15b. Family harvesting	Dec 12	Feb 6	18	148½
16. Threshing	Dec 15	Feb 14	43	597
17. Winnowing	Dec 25	Feb 14	9	86½
18. Stacking of straw	Dec 29	Feb 4	2	16
19. Procure grass for buf.	June 14	Nov 27	83	157
20. Supervise coop work	July 22	Jan 24	8	26
21. Entertaining guest workers	July 22	Jan 24	7	158½
Total	June 4	Feb 14	248	5,476½
B. Work by Piece-workers				
1. Coop uprooting	Aug 18	Aug 23	6	24
2. Uprooting	Aug 23	Aug 30	2	45
3. Transplanting	July 19	Aug 2	5	160
Total	July 19	Aug 30	10	229
Grand total	June 4	Feb 14	248	5,707½

* See details in the section on steps in rice production.

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

TABLE 36

SUMMARY OF YEAR ROUND WORK BY BUFFALOES ON CHOM FARM
Bangchan, Thailand, 1953

	Duration Start	End	Days in work	Buf-hrs.
1. Plowing	June 4	Aug 23	49	918½
2. Harrowing	June 13	Aug 24	28	582
3. Rolling	June 13	Aug 22	7	84
4. Hauling	Aug 23	Aug 23	1	8
5. Prepare thresh floor	Nov 30	Dec 4	5	32
6. Threshing	Dec 15	Feb 13	35	494½
Total	June 4	Feb 13	112	2,119

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

243
461
221

4. Labor requirement per rai.

Our records show that the total area planted to rice was 49 rai.
Therefore, man labor per rai was $\frac{5,707½}{49}$ = 116 man-hours.[4]

And animal labor per rai was $\frac{2,119}{49}$ = 43 buffalo-hours.[5]

5. Labor requirement per 100 tang of paddy.

Our records show that a total crop of 2,100 tang of paddy was produced.
Therefore, man labor per 100 tang of paddy was
$\frac{5,707½}{2,100}$ X 100 = 272 man-hours
And animal labor per 100 tang of paddy was
$\frac{2,119}{2,100}$ X 100 = 101 buffalo hours.

The Critical Period in Rice Production

243
221

The entire length of rice producing activities, which in the case under study lasted from June 4, 1953 to February 14, 1954, may be subdivided into three distinct phases: (1) cultivation and planting season which lasts from the first day of field work to the date when the seedlings have all been transplanted and properly cared for; (2) flooding season which lasts approximately from the date when the water level has risen up over the dikes to the time when the early varieties of rice are ready to be harvested; and (3) harvesting season which lasts from the harvesting time of the early varieties until all varieties have been harvested, threshed, and winnowed.

Bangchan farmers recognize these three distinct phases which are called in Thai na nar (lit., field season), na nam (lit., water season), and na khao (lit., paddy season). They

4. This would be 290 man-hours per acre.

5. This would be 107½ buffalo-hours per acre.

243 Hence, transplanting should be completed some time before the
221 whole field is inundated. It is seen, then, that this critical period of na nar is not only one of physical strain on the part of the farmer but also a period of anxieties.

When the rice plants are well established in the fields, they more or less can take care of themselves, for they grow sufficiently rapidly to keep up with the rising water level unless the rise is abnormally rapid. Thus, na nam or the flooding season is a period when farmers have nothing to do except procure grass for the buffaloes. It was earlier indicated that field inspection that was done during this period was actually a pleasure trip to observe the general growth of the rice plants; for even if anything wrong was noticed, nothing could be done about it.

Farmers are busy again when harvesting season starts. Each variety of rice ripens on its exact date and it must be harvested within a day or two. If harvesting is delayed even for a short period of three or four days, the paddy will be over-ripe, resulting in a higher proportion of breakage and hence a lower price. If there is any anxiety at all, it is now over the possibility of rain which may damage the paddy which is left to dry in the field. This is unlikely, however, for the rainy season has just passed. Generally speaking, this
• [461] is a period of joy rather than anxiety. The major field work -- harvesting -- although one of the most burdensome field operations consuming one-sixth of the total man labor spent on rice production, is largely a cooperative undertaking carried on

243 under a lively atmosphere. Moreover, the amount of work done
221 depends solely on the amount of human labor utilized. Hence,
461 if the operator wants to finish his harvesting in time when he has not enough available labor, he simply hires more piece-workers. The situation is different in the critical period of cultivation and planting, when the amount of work done depends not only on the amount of labor utilized but also on the accomplishment of the preceding steps which are governed by water condition, weather condition, available equipment, animal labor as well as man labor.

243 In the 1953-54 crop year, it was observed that na nar
221 started on June 4 and ended on September 30, na nam lasted from October 1 to December 3, and na khao from December 4 to February 14.

243 While the figures on total labor requirement in rice
461 production represent valuable information, an earlier discussion in this section has led us to the belief that the mere knowledge that it takes 272 man-hours and 101 buffalo-hours to produce 100 tang of paddy is not enough to demonstrate the labor requirement situation if it is to serve as a guide in problem locating and problem solving. These figures must be further broken down into those required during the critical period and those required in the non-critical period.

243 Our records show that of the 5,707½ man-hours spent
221 in producing 2,100 tang of paddy on Chom Farm, 3,226½ man-
231 hours were utilized in na nar (June 4 to September 30, 119 days),
461 133½ man-hours in na nam (October 1 to December 3, 64 days),

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

243 and 2,347½ man-hours in na khao (December 4 to February 14, 72
221 days). Similarly, of 2,119 buffalo-hours spent on the same
231
461 production, 1,592½ were utilized in na nar, 24 in na nam, and
502½ in na khao. From these data, we may calculate the averages for daily labor utilization in each period as follows:

1. Na nar (119 days)

Total man-hours, 3,226½; daily man-hours, 27.1
Total buf-hours, 1,592½; daily buf-hours, 13.4

Man-hours per rai, 66.
Buf-hours per rai, 32½.

2. Na nam (64 days)

Total man-hours, 133½; daily man-hours, 2.1
Total buf-hours, 24 ; daily buf-hours, 0.4

Man-hours per rai, 2½.
Buf-hours per rai, ½.

3. Na khao (72 days)

Total man-hours, 2,347½; daily man-hours, 32.6
Total buf-hours, 502½; daily buf-hours, 7.0

Man-hours per rai, 47.
Buf-hours per rai, 10.

It is seen that three-fourths of the total buffalo labor was utilized in na nar. This was to be expected, for most of the steps involving buffalo labor were in this period. It is important to observe that buffaloes assumed an active role in practically all steps of land preparation -- plowing, harrowing, and rolling. Human labor, on the other hand, played only a passive part in these steps.

243 Table 36 shows that buffaloes were utilized in six
231 steps in rice production -- plowing, harrowing, rolling, haul-
461 ing, preparation of threshing floor, and threshing. These steps

243 may be classified according to the way the animals are used
231 as follow:
461

1. Steps in which buffaloes are always used and in constant proportion to men.

Steps	Proportion of buffaloes to men
Plowing	1 to 1
Harrowing	2 to 1
Rolling	2 to 1

2. Steps in which buffaloes are always used but not necessarily in constant proportion to men.

Preparation of threshing floor: Four buffaloes are led by one worker to tramp over the dirt floor which was soaked with water on the previous day. While the buffaloes are tramping over the floor, another worker levels the floor with hoe. The number of buffaloes and workers may be more or may be less, and there is no definite proportion between the animals and men.

Threshing: Four buffaloes are led by one worker to tramp over harvested rice stalks (with paddy still intact) which have been spread over the threshing floor. While the buffaloes are tramping over the rice stalks, two or three other workers separate straw from the threshed paddy with pitchforks.

3. Steps in which buffaloes are not usually used but are sometimes used to minimize human labor when opportunity permits.

Hauling: Two buffaloes are led by two workers to draw the boat carrying seedlings along the muddy water way. Of a total hauling work of 733 man-hours in 55 work days lasting from July 17 to February 14, buffaloes were used only once on August 23, involving only 8 buffalo-hours.

243 Since buffaloes are used in the critical period of
221 na nar in the three steps where they must be used and used in
231 constant proportion to men, it is not difficult to see that
461 the field work accomplished in this critical period depends more on buffaloes than on human workers. It was mentioned that

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

243 Chom Farm utilized four buffaloes and four regular workers
221 including the operator himself. Supposing that one buffalo
231 is sick, we might expect that the work accomplished in this
461 period would be reduced to three-fourths. On the other hand, if one regular worker is sick, that would not materially affect the amount of work done, for the sick worker would certainly be replaced by a substitute. Even if no extra family worker is available, it would be only a matter of hours that Chom would be able to recruit one more worker among his relatives and neighbors. He could not recruit a temporary service of a buffalo. If more buffalo labor is badly needed, the only alternative is to purchase the animal. Looking from a different angle, if Chom wants to finish plowing and harrowing ahead of the original schedule for fear of an early inundation, he could not accomplish that by simply utilizing more human labor alone. It is thus seen that buffaloes, more than human workers, are the limiting factor in the accomplishment of the field work during the critical period of cultivation and planting season.

Labor Adjustment Devices

243 Rice plants have one unique quality: each variety will
221 mature on a certain exact date no matter how early or how late it is planted.[6] If there were only one variety of rice in existence, this would be a serious handicap to rice growers, for there would certainly be much more demand for labor in

6. The exceptions are the very early varieties which mature at the age of about 90-100 days. Ripening dates of these varieties are set only by the length of time they have been planted, regardless of the time of the year.

243 harvesting time than could be coped with by the supply for it.
221 Chom Farm, for example, would alone need 916 man-hours in one or two days, during which time approximately the same amount of labor would be needed by each of the other farms. Fortunately, there are in existence hundreds of rice varieties whose maturing dates vary from October to February. These different varieites are grouped into the early, medium, and late varieties according to their ripening dates of October to November, early December to early January, and middle January to middle February, respectively. Usually, the choice of varieties of rice to be grown in a certain locality is so conditioned by local water levels at different periods that a narrower range of selection is forced. Thus, the earliest variety in Bangchan is harvested in early December and the latest in middle February. The terms "early," "medium," and "late" are also arbitrarily used by local people to denote the relative ripening dates of locally grown varieties. Thus, in Bangchan the varieties ripening in early and middle December are known as the early varieites, those ripening between late December and middle January the medium varieties, and those ripening in late January and after the late varieties. It is possible, then, that the same variety may be called an early variety in one place and a medium or even a late variety in another.

243 By growing several varieties of different ripening
221 dates, a farmer is able to spread out labor required in har-
461 vesting. In the same manner, labor required in uprooting and transplanting is spread out by sowing these seeds at different

243 times. Using too many varieties of rice on a farm, however,
221 will complicate the working schedule; and sowing times of these
461 varieties cannot also be spread out too far apart because seedlings should all grow up to the size appropriate for transplanting some time before the deadline set by the water level. It has been observed that most farmers grow from three to six varieties on their farms.

243 Another efficient device for spreading out labor is
221 that of farmers in a locality organizing themselves into
461 informal cooperative work groups to perform on a mutual help
467 basis such field work which can be best cooperatively done, such as uprooting, transplanting and harvesting. There were three cooperative work groups in Bangchan: (1) Mu Rongan Yai, or the Bridge Group, consisting of farm operating families living in the vicinity of the bridge across Bangchan Canal; (2) Mu ha Wat, or the Near Wat Group, consisting of families living around Wat Bangchan; and (3) Mu Non, or the North Group, consisting of families living in Upcanal Bangchan. The organization and the system for labor compensation of these various informal work cooperatives will be discussed in the next section.

Cooperative Work

243 There were five kinds of cooperative work in Bangchan --
476 cooperative uprooting, cooperative transplanting, cooperative harvesting, cooperative weeding, and cooperative pounding of cargo rice. While the first three kinds were important undertakings through which a major part of these rice production

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

#243 476 464 possible ways to eliminate the participation of professional piece-workers. From the standpoint of professional piece-workers, however, to get oneself admitted into a cooperative group is a boon to their respective families for job opportunity [465] would be assured to them. This is the reason why Sa was able to earn 2,000 baht in 1953 while most of his fellow piece-workers' earnings were as low as 300 or 600 baht.

#243 476 The same principle of labor reciprocity held in the other kinds of cooperative work, which also involved cash payment in the end to professional piece-workers who served as clearing agents to settle the balances of work credits. Generally speaking, such balances were more in case of cooperative transplanting than cooperative uprooting, and the same were even higher in the case of cooperative harvesting. This was to be expected because transplanting involved about double the amount of labor spent on uprooting, and harvesting alone required about a tenth more than the combined labor requirement of these two operations.

#243 461 476 Chart 1 shows both man-labor spent by Chom farm staffs and man-labor spent on Chom Farm, the former being represented by the solid line and the latter by the dotted line. On the basis of equal reciprocity of labor, these two should be technically equal in total magnitude. They differed, however, in their daily distribution. It is seen that the two lines coincide during the periods from June 4 to July 14, from September 30 to December 3, and from January 26 to February 4, when there was no cooperative activity. During the periods from July 15

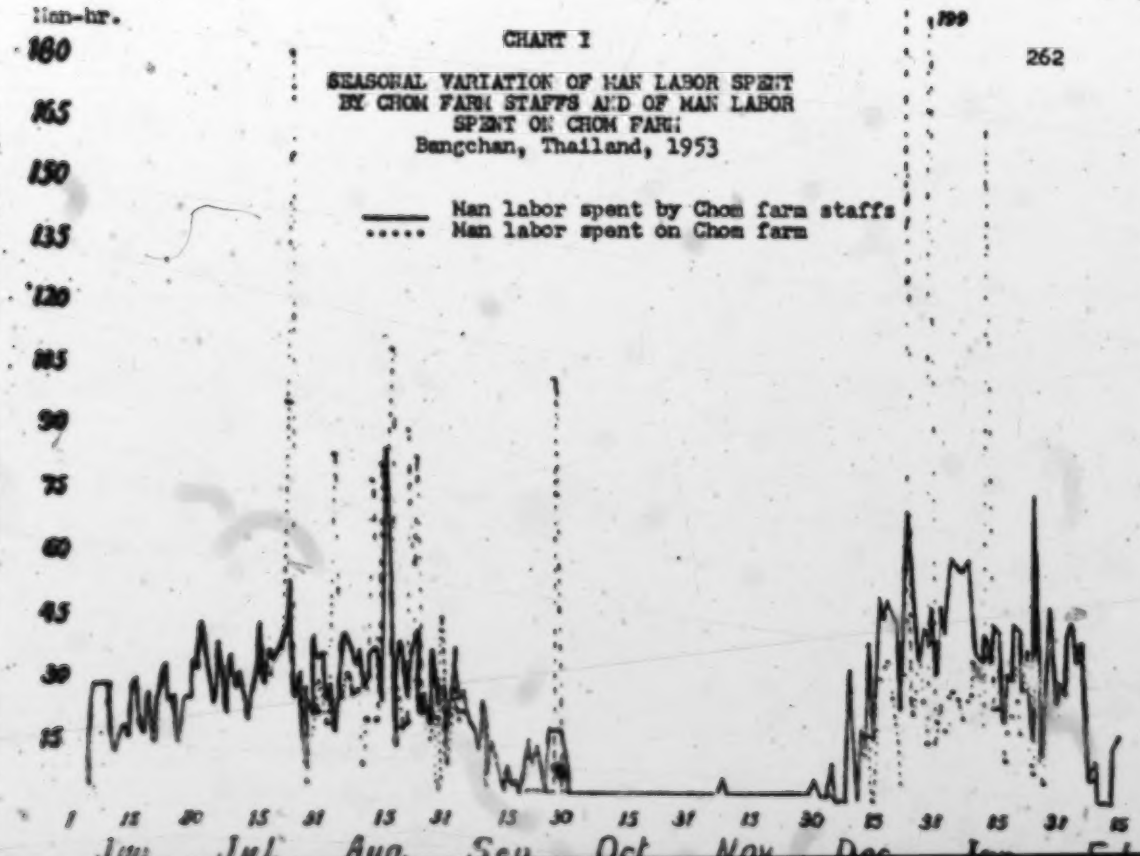
7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

243
221
461

423
799
262

CHART I

SEASONAL VARIATION OF MAN LABOR SPENT BY CHOM FARM STAFFS AND OF MAN LABOR SPENT ON CHOM FARM
Bangchan, Thailand, 1953

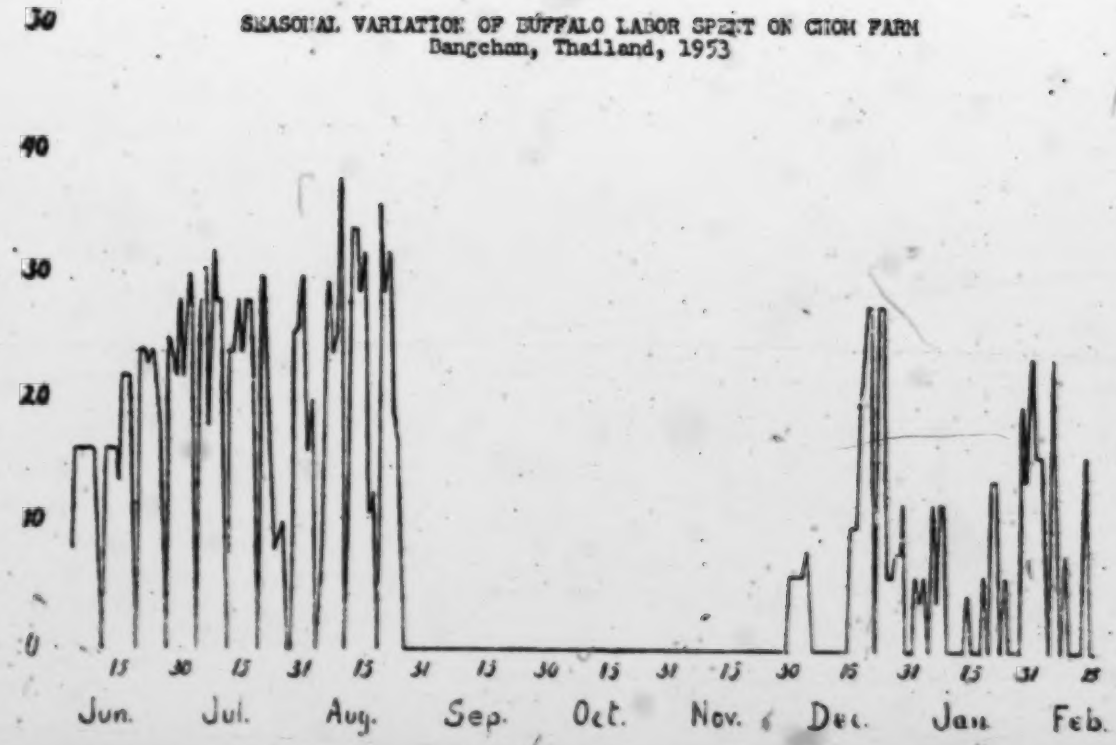


• 263
221
231
• 461

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

CHART II

SEASONAL VARIATION OF BUFFALO LABOR SPENT ON CHOM FARM
Bangchan, Thailand, 1953



7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

TABLE 37

DAILY LABOR SPENT BY CHOW FARM STAFFS
Bangchan, Thailand, 1953

Date	Animal labor	Human labor		
		On farm	On coop. work	Total
	buf-hr	man-hr	man-hr	man-hr
Jun 4	8	24	--	24
5	16	28	--	28
6	16	28	--	28
7	16	28	--	28
8	16	28	--	28
9	16	28	--	28
10	8	12	--	12
11	--	16	--	16
12	16	18	--	18
13	16	15½	--	15½
14	16	27½	--	27½
15	13½	29	--	29
16	22	19½	--	19½
17	22	16½	--	16½
18	20	26½	--	26½
19	--	14½	--	14½
20	24	25	--	25
21	24	24	--	24
22	23	33	--	33
23	24	24	--	24
24	21½	25½	--	25½
25	18	14	--	14
26	--	18½	--	18½
27	25	25	--	25
28	24	25	--	25
29	22	34½	--	34½
30	28	32	--	32
July 1	22	43	--	43
2	30	38	--	38
3	27½	30	--	30
4	--	23	--	23
5	28	38	--	38
6	30½	32½	--	32½
7	18	21	--	21
8	32	35	--	35
9	28	28	--	28
10	28	3-½	--	30½

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

TABLE 37 (Cont.)

DAILY LABOR SPENT BY CHOM FARM STAFFS

Date		Animal labor	Human labor		
			On farm	On coop. work	Total
		buf-hr	man-hr	man-hr	man-hr
July	11	--	23½	--	23½
	12	24	20	--	20
	13	24	26½	--	26½
	14	28	31	--	31
	15	24	38	5½	43½
	16	28	27½	--	27½
	17	28	36	--	36
	18	22	30	5	35
	19	--	36	--	36
	20	30	37½	--	37½
	21	28	37	4½	41½
	22	19	46½	5	51½
	23	8	20½	4½	25
	24	9	31	--	31
	25	10	16	--	16
	26	--	4	4	8
	27	--	17	4½	21½
	28	25½	27½	12	39½
	29	26	26½	9½	38
	30	28	21	13½	34½
	31	30	35	--	35
Aug	1	16	18	6	24
	2	20	21½	7	28½
	3	--	7½	8½	16
	4	5	17	9½	26½
	5	22½	24½	16	40½
	6	29½	29½	10½	40
	7	24	30½	6½	37
	8	25½	25½	7½	33
	9	38	26	10½	36½
	10	--	8	19½	27½
	11	28	16	13	29
	12	34	19	16½	35½
	13	34	25½	12	37½
	14	29	19	7½	26½
	15	32	81½	4	85½
	16	11	67½	4	71½
	17	12½	35	5½	39½
	18	--	4½	8	12½
	19	36	38	--	38
	20	29	17½	8½	26

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

TABLE 37 (Cont.)

DAILY LABOR SPENT BY CHOM FARM STAFFS

243
221
231
461
476
592

Date	Animal labor	Human labor		
		On farm	On coop. work	Total
	buf-hr	man-hr	man-hr	man-hr
Aug 21	32	18	6½	24½
22	19	28	7	35
23	17	41½	--	41½
24	8	16	4½	20½
25	--	19	7	26
26	--	14½	3½	18
27	--	21	15	36
28	--	4	16	30
29	--	2	22½	24½
30	--	14	14	28
31	--	8	4	12
Sept 1	--	8	9	17
2	--	27½	10	37½
3	--	12½	11½	24
4	--	19	7	26
5	--	21½	3½	25
6	--	19	--	19
7	--	17	--	17
8	--	12	--	12
9	--	24	--	24
10	--	6	--	6
11	--	11	3	14
12	--	9	--	9
13	--	6	--	6
14	--	2	--	2
15	--	8	--	8
16	--	3½	--	3½
17	--	4½	--	4½
18	--	2	--	2
19	--	2	3½	5½
20	--	2	12	14
21	--	2	7	9
22	--	2	11	13
23	--	2	7	9
24	--	2	--	2
25	--	2	14	16
26	--	2	14	16
27	--	2	14	16
28	--	16	--	16
29	--	2	7	9
30	--	2	--	2

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

TABLE 37 (Cont.)

DAILY LABOR SPENT BY CHOM FARM STAFFS

Date		Animal labor	Human labor		Total
			On farm	On coop. work	
		buf-hr	man-hr	man-hr	man-hr
Oct	1	--	2	--	2
	2	--	2	--	2
	3	--	2	--	2
	4	--	2	--	2
	5	--	2	--	2
	6	--	2	--	2
	7	--	2	--	2
	8	--	2	--	2
	9	--	2	--	2
	10	--	2	--	2
	11	--	2	--	2
	12	--	2	--	2
	13	--	2	--	2
	14	--	2	--	2
	15	--	2	--	2
	16	--	2	--	2
	17	--	2	--	2
	18	--	2	--	2
	19	--	2	--	2
	20	--	2	--	2
	21	--	2	--	2
	22	--	2	--	2
	23	--	2	--	2
	24	--	2	--	2
	25	--	2	--	2
	26	--	2	--	2
	27	--	2	--	2
	28	--	2	--	2
	29	--	2	--	2
	30	--	2	--	2
	31	--	2	--	2
Nov	1	--	2	--	2
	2	--	2	--	2
	3	--	2	--	2
	4	--	2	--	2
	5	--	2	--	2
	6	--	2	--	2
	7	--	2	--	2
	8	--	2	--	2
	9	--	2	--	2
	10	--	2	--	2

TABLE 37 (Cont.)

DAILY LABOR SPENT BY CHOM FARM STAFFS

Date		Animal labor	Human labor		
			On farm	On coop. work	Total
		buf-hr	man-hr	man-hr	man-hr
Nov	11	--	2	--	2
	12	--	2	--	2
	13	--	2	--	2
	14	--	2	--	2
	15	--	2	--	2
	16	--	2	--	2
	17	--	2	--	2
	18	--	2	--	2
	19	--	2	--	2
	20	--	2	--	2
	21	--	2	--	2
	22	--	2	--	2
	23	--	2	--	2
	24	--	2	--	2
	25	--	2	--	2
	26	--	2	--	2
	27	--	2	--	2
	28	--	2	--	2
	29	--	2	--	2
	30	6	5	--	5
Dec	1	6	2½	--	2½
	2	6	1½	--	1½
	3	6	1½	--	1½
	4	8	2	7	9
	5	--	--	--	--
	6	--	--	--	--
	7	--	--	--	--
	8	--	25½	--	25½
	9	--	33	--	33
	10	--	--	--	--
	11	--	12½	4½	17
	12	--	8	5	13
	13	--	16	22	38
	14	--	--	15	15
	15	10	17	16	33
	16	10	30	19	49
	17	20	33	10	43
	18	22	34	15	49
	19	28	24½	21	45½
	20	28	19½	24	43½

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

TABLE 37 (Cont.)

DAILY LABOR SPENT BY CHOW FARM STAFFS

Date		Animal labor	Human labor		
			On farm	On coop. work	Total
		buf-hrs	man-hr	man-hr	man-hr
Dec	21	--	4½	18	22½
	22	28	30½	21	51½
	23	28	43½	27½	71
	24	6	40	8	48
	25	6	21	18½	39½
	26	8	34½	--	34½
	27	8	24	18	42
	28	12	17½	24	41½
	29	--	14½	24	38½
	30	--	47	--	47
	31	--	14½	16	30½
Jan	1	6	23	24½	47½
	2	4	17	24	41
	3	6	26½	24	50½
	4	--	27½	32	59½
	5	12	25½	32	57½
	6	4	20	36	56
	7	12	25½	32	57½
	8	12	26½	32	58½
	9	--	34	15	49
	10	--	19½	16	35½
	11	--	25	9	34
	12	--	23½	18	41½
	13	--	23½	10	33½
	14	4½	32	11	43
	15	--	26	16	42
	16	--	10	9	19
	17	--	16½	15	31½
	18	6	21	9½	30½
	19	--	33	10	43
	20	14	25½	16	41½
	21	14	17½	10	27½
	22	--	32½	5	37½
	23	6	5½	9½	15
	24	--	74½	--	74½
	25	--	2½	8½	11
	26	--	22	--	22
	27	--	29½	--	29½
	28	20	47½	--	47½
	29	14	31	--	31
	30	20	24	--	24
	31	24	29	--	29

TABLE 37 (Cont.)

DAILY LABOR SPENT BY CHOM FARM STAFFS

Date		Animal labor	Human Labor		
			On farm	On coop. work	Total
		Buf-hrs	man-hr	man-hr	man-hr
Feb	1	16	25½	--	25½
	2	16	39½	--	39½
	3	14	43½	--	43½
	4	--	34	--	34
	5	24	38½	--	38½
	6	8	22	--	22
	7	--	5	--	5
	8	8	10½	--	10½
	9	--	--	--	--
	10	--	--	--	--
	11	--	--	--	--
	12	--	--	--	--
	13	16	12½	--	12½
	14	--	16	--	16

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

*243 433 [427] 1. Land: This element represents 22 per cent of the total cost of producing paddy (Table 38). Of this, 15 per cent is actual payment for explicit rent while 9 per cent is assessed value of implicit rent.

Among the cost items in Table 38, cash expenses include actual rent (13%), wages for pieceworkers (3%), wages for hired laborers (3%) and seeds and materials (6%), while imputed expenses include implicit rent (9%), value of family labor (31%), value of the operator's labor (13%), depreciation (10%) and interest on investment (11%). It is seen that cash expenses comprise only 25 per cent, while imputed expenses comprise as high as 75 per cent of the total cost.

In view of the high proportion of imputed expenses, the method adopted in the imputation will be explained here.

[427] [435] 1. Rent: Going rate for 1948-49 of 6.2 tang (49 baht) per rai was used.

[592] [461] 2. Value of family labor: Labor requirement based on acreage was first calculated, using the standard factor of 13.4 adjusted rai to one fully employed worker (this was the 1949 average for farms with regularly hired laborers on which [435] workers were assumed to be fully employed). When the labor requirement in terms of number of fully employed laborers needed was known, imputed family labor cost was calculated at the going wage rate for the year of 1,600 baht (1,000 baht cash and 600 baht of food privilege).

3. Value of the operator's labor: In addition to

[TEXT CONTINUED ON PAGE 280]

*243 433 [435] the value of family labor, the cost of managerial service of the operator of 1,000 baht was arbitrarily charged for farms with the size of 10 rai or over. For farms under 10 rai, only 500 baht was arbitrarily charged as the cost of managerial service.

4. Depreciation: From the original cost of each item of equipment (including buffaloes) was deducted its residual value at the termination of its service, and the result was divided by the expected length of service in years of the equipment.

5. Interest on investment: The rate of 15 per cent per year was arbitrarily chosen. This was the maximum legal rate, and was also a minimum rate of return which any person in Bangchan might reasonably expect from his money if he chose to lend it out at any moment.

*[128] Since much of these imputed expenses were arbitrarily chosen, the cost of producing paddy might naturally vary widely according to the assigned value of each item. Our cost of production figure, then, will be more meaningful, if the amounts of these arbitrarily imputed values are constantly kept in mind.

*243 433 • 461 423 Farms in Bangchan are composed of from one to four parcels of land. The characteristics of this fragmentation are shown in Table 39. The size of a parcel ranges from one rai to 65 rai, averaging 18.8 rai. Fragmentation obviously brings about a waste of considerable time and energy spent in going from one parcel to another, and thus an increase in

[TEXT CONTINUED ON PAGE 282]

243 433 461 423 labor cost. Most farmers must go by foot or boat to work at places ranging from a hundred meters to two kilometers from home. This waste is the more serious during the period of preparation of the fields at the beginning of the season when the water level in the canals is not high enough to permit the effective use of a boat.

243 178 423 Table 40 shows the frequency distribution of areas worked by Bangchan operators in 1948 and 1952. It is seen that in both years work areas concentrate in the size groups between 10 to 40 rai, averaging 34.2 rai for 1948 and 31.7 rai for 1952. It is seen also that the work areas of 1948 have a wider range than that of 1952. There were 30 farms in 1948 whose areas were 40 rai and over, while the number of such farms was 28 in 1952.

Table 41 shows that of 96 continuing farms, 20 have increased their size during the five years period, 40 have decreased their size, while 35 farms have the same size throughout.

243 433 46 2. Labor: This element represents 51 per cent of the total cost of producing paddy (Table 38). Of this, only a small fraction is actually paid for -- 3.3 per cent to hired laborers and 3.4 per cent to pieceworkers. The bulk of labor is supplied by family workers (including the operator himself) whose labor value is assessed at 44.6 per cent of the total cost of producing paddy.

It is seen in Table 42 that the number of adjusted rai per worker is only 9.4 for farms which used only family

[TEXT CONTINUED ON PAGE 286]

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7 Bangchan

+243 • 461 444 592

TABLE 42

DISTRIBUTION OF FULL TIME LABOR FORCE OF 104 FARMS
Bangchan, Thailand, 1948

Condition of Regular Labor Force	Number of Farms	Number of Workers	Adjusted* Areas	Adjusted Rai Per Man
Farms without hired laborer			rai	rai
One family worker	8	8	131.75	16.5
Two family workers	28	56	497.50	8.9
Three family workers	25	75	646.25	8.6
Four family workers	20	80	747.50	9.3
Five family workers	10	50	487.25	9.7
Six family workers	--	--	--	--
Seven family workers	1	7	75.50	10.8
Eight family workers	1	8	83.00	10.4
Nine family workers	--	--	--	--
Ten family workers	1	10	107.50	10.8
Sub-total	94	295	2,776.25	--
Average	1	3.1	29.50	9.4
Farms with hiredlaborers				
a. With one hired laborer				
One family worker	1	2	58.50	29.2
Two family workers	5	15	177.50	11.8
Five family workers	2	12	108.00	9.0
b. With two hired laborers				
One family worker	1	3	70.00	23.3
c. With three hired laborers				
Two family workers	1	5	80.00	16.0
Sub-total	10	37	494.00	--
Average	1	3.7	49.50	13.4
Grant total	104	332	3,270.25	--
Average	1	3.2	31.50	9.8

* An "adjusted" rai equals one transplanted rai or two broadcast rai. Cultivation of one rai by the broadcasting method requires roughly only one-half the labor involved in the transplanting method.

Buffaloes are considered as a kind of farm equipment, so the cost of buffalo labor appears under the item of cost of equipment. Buffalo labor is, however, so closely associated with man labor that it seems to be more appropriate to discuss it here.

It has been pointed out that the accomplishment of farm work during the critical period depends largely on buffalo labor. Farmers fully realize the importance of this draft animal, which is always given good treatment. Even in the busiest season of field preparation, when farmers work from dawn to dusk seven days a week, the buffalo has a full holiday each week (on Wan Phra, the Buddhist holiday) and has a four-hour noon recess, usually from 10 a.m. to 2 p.m., on work days.

3. Farm equipment and supplies: This element represents 26 per cent of the total cost of producing paddy. Our records show that in 1948 the total value of farm equipment and materials of the 104 sample-farms amounted to 559,626 baht, averaging 5,381 baht per farm, and ranging from 443 to 16,733 baht. The frequency distribution of the value per farm of farm equipment and materials is shown in Table 44.

Table 45 shows the frequency distribution of the value per rai of farm equipment and materials which ranges from 34 to 518 baht, averaging 159 baht. It is seen, in spite of this rather wide range, that three-fifths of the value per rai concentrate in the interval between 100 and 200 baht per rai.

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

*243
434
*128

8. Efficiency in the use of farm equipment

9. Markets and marketing

While these nine points may appropriately be considered as standard factors affecting farm profit, it is obvious that the extent of their respective effect varies with location, type of farming, and the stage of technological development of the area in question. In Bangchan, we may immediately rule out as an important variable the selection and combination of enterprises because there is only one enterprise -- rice. Farm layout, farmstead and building arrangement is also a rather insignificant factor as a variable affecting the profit of rice farms, although we have earlier noted that parcelization may have increased the cost of labor and irrigation. Efficiency in the use of farm equipment may also be considered as an insignificant variable factor in Bangchan; for the equipment units are usually small although numerous, hence farm equipment tend to be fully utilized.

*243
434
461

Labor efficiency needs more explanation than mere passing comment. Table 52 shows that labor constitutes 51 per cent of the total cost of producing rice. It should be noted, however, that of 3,743 baht that goes to labor for each farm only 485 baht is actually spent, the balance of 3,258 baht being imputed values of family's labor and the operator's labor. It is seen, then, that a reduction in labor cost would involve largely only imputed values. It certainly will correspondingly reduce the total cost

[TEXT CONTINUED ON PAGE 313]

7: Janlekha X-4.5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

243 434 461 and enhance income from the farm, but it would not significantly affect the farm family income or income for the family living (see definitions under Headings 7 and 8 of the section on the operator's remuneration and measures of success) unless more land is added.

243 433 434 In rice farming, rates of production of crops and animals is reduced to rice yield per rai. At the present stage of technological development in Bangchan, this is not as much a result of management as of nature -- the water condition and the quality of land (in both senses of soil fertility and levels of the fields). Since we already have quality of land as a factor, rates of production may thus be eliminated.

After eliminating factors that are either insignificant or duplicates of other factors under Bangchan conditions, the standard factors affecting farm profit are thus reduced to prices, quality of land, size of business, and markets and marketing. These influences are familiar to students in agricultural economics, and therefore do not need further elaboration here.

[171] In addition to these standard factors, there are certain special factors affecting farm profit which the author suspects to be appropriate not only to Bangchan but also to all other rice producing areas of Southeast Asia. These are the differentials in paddy prices, in rates of interest, rentals, and wage.